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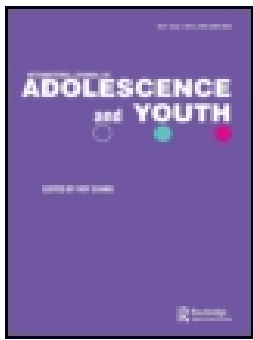
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# The role of sources of social support on depression and quality of life for university students

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## ABSTRACT

Prevalence of mental health problems in university students is increasing and attributable to academic, financial and social stressors. Lack of social support is a known determinant of mental health problems. We examined the differential impact of sources of social support on student wellbeing. University students completed an online survey measuring depressive symptoms (Patient Health Questionnaire (PHQ-9)), social support (Multidimensional Perceived Social Support (MPSS)), and quality of life (WHOQOL-BREF). The sample was 461 students (82% female, mean age 20.62 years). The prevalence of depressive symptoms was 33%. Social support from family, and friends was a significant predictor of depressive symptoms ( $p = 0.000^*$ ). Quality of life (psychological) was significantly predicted by social support from family and friends. Quality of life (social relationships) was predicted by social support from significant others and friends. Sources of social support represent a valuable resource for universities in protecting the mental health of students.

## ARTICLE HISTORY

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## KEYWORDS

Social support; depression; quality of life; university students

## Introduction

Depression is a common global health problem, one of the most common causes of disability, and affects around 9% of men and 17% of women in Europe (World Health Organisation, 2016). A systematic review showed the weighted mean prevalence of depression among university students is 30.6% compared to 21.6% recorded for the general population (Ibrahim, Kelly, Adams, & Glazebrook, 2013). In the United Kingdom (UK) a recent national survey of 1,2000 university students found that 80% of students reported experiencing stress, 55% reported anxiety and 49% reported depression (Brown, 2016).

University is a period of change as young people develop new skills, experiences, expand social networks and gain knowledge. For many students going to university can be a stressful life event as they negotiate changes in lifestyle, community and relationships (Bayram & Bilgel, 2008; Ibrahim et al., 2013; Steptoe, Tsuda, & Tanaka, 2007). The transition from adolescence to young adulthood brings significant challenges such as being accorded with the opportunity to manage one's life and deal with roles of greater independence (Lenz, 2001). During this transition the young person is able to explore and experiment on who they are and who they want to be in the future. For many university students, it is the first time of living away from home for an extended period.

The surge in the number of people who attend university and complete undergraduate and postgraduate degrees in the UK has resulted in university education becoming more challenging

and with increased academic demands (Andrews & Wilding, 2004; Department of Education, 2016). The provisional (UK) Higher Education Initial Participation Rate (HEIPR) estimate for the 2014/15 academic year was 48%, up by 1.7 percentage points compared with the estimate for 2013/14. This growth was driven by an increase of about 12,000 entrants aged 17–30 years, up from 313,910 in 2013/14 to 325,470 in 2014/15 (Department of Education, 2016).

More university students worldwide are currently being diagnosed with mental health problems, and many researchers attribute this to academic, financial and social stressors (Chen et al., 2013; Larcombe et al., 2016; Othieno, Okoth, Peltzer, Pengpid, & Malla, 2014; Robotham, 2008). Depressive symptoms among university students have been associated with independent decision making such as being on their own and managing their daily life, and financial difficulties (Andrews & Wilding, 2004; Leykin & DeRubeis, 2010). Academic performance also contributes to the risk of depression and mental health problems (Beiter et al., 2015) as many students experience academic requirements in university as more demanding than in secondary schools.

Social support has been shown to promote mental health and acts as a buffer against stressful life events (Dollete & Phillips, 2004). Social support is derived from a network of people drawn from family, friends and community (Awang, Kutty, & Ahmad, 2014; Zimet, Dahlem, Zimet, & Farley, 1988). A lack of social support is a determinant of mental health problems including depressive symptoms among university students (Bukhari & Afzal, 2017; Safree & Dzulkifli, 2010), and has a negative impact on quality of life for students (Dafaalla et al., 2016). Research evidence indicates a significant negative relationship between social support and psychological disorders including depression and stress (Alimoradi, Asadi, Asadbeigy, & Asadnia, 2014; Bukhari & Afzal, 2017; Kugbey, 2015). Consistent findings from these cross sectional studies revealed the important role of social support on students' wellbeing. A study of 115 university students found students who had higher social support had lower rates of stress and were well-adjusted to university (Friedlander, Reid, Shupak, & Cribbie, 2007). Likewise, it was found that the impact of academic stress defined as frustrations, conflicts, pressures, changes and self-imposition on psychological wellbeing depends on the level of perceived social support from friends (Glozah, 2013). A study found that social support from family and friends has a substantial impact on the emotional, social and academic performance of university students (Awang et al., 2014). However, in this developmental stage of adolescence, friends are increasingly more important as a source of social support compared to family (Kugbey, 2015), as the emphasis shifts from parents to that of peers as the child seeks to individuate from family. This is supported by a study showing social support from friends is a significant predictor of depression in university students (Wörfel, Gusy, Lohmann, Töpritz, & Kleiber, 2016). Two systematic reviews on the relationships between social support, depression and wellbeing including various age groups with a mean age of 20 years showed the crucial role of social support as a predictor of young people's mental health, but did not investigate quality of life (Chu, Saucier, & Hafner, 2010; Rueger, Malecki, Pyun, Aycocock, & Coyle, 2016), thus there is a need for further studies to explore such associations.

There is extensive research on the impact of social support on depression in the adult and general population. However, the university population has specific issues and represents a unique stage of developmental transition including newfound independence and social relationships (Robotham, 2008). Therefore, determining specific sources of social support that protect mental health and quality of life is essential for the emotional, social and academic adjustment of university students. Previous research on social support among university students has not examined the impact of sources of social support on both depressive symptoms and quality of life, and has focused on outcomes such as depression, anxiety and psychological distress (Alimoradi et al., 2014; Hamdan-Mansour & Dawani, 2008). There is some evidence for the impact of social support on depressive symptoms and quality of life in university students but these samples were restricted to medical students and thus may not be representative of the student population (Dafaalla et al., 2016). Our study will address these issues by examining the impact of different sources of social support on depressive symptoms and quality of life in university students.

## Method

The study was a cross-sectional design for an online survey using Qualtrics software. Ethical approval was obtained from the participating institution. The inclusion criteria were university students, aged 18 years and over. The online survey was advertised across all departments, colleges and societies using a variety of procedures such as postcards, posters, and a URL online link that was promoted by the university students' union and sent by email to all students registered with the union (7,000 students). The study was promoted across lectures, common rooms and social media. Participation was voluntary and all participants were asked to provide informed consent by checking a box in the online survey. The recruitment process occurred during February to mid-March 2016. To increase the participation rates all participants were entered into a prize draw to win either an IPAD or one of four Amazon vouchers of £50 each. Furthermore, psychology students were allocated course credits for taking part.

## Measures

### *Demographic variables*

The demographic variables included gender, age, year of study, moved away from home and employment status while studying.

### *Depressive symptoms: patient health questionnaire (PHQ-9)*

The Patient Health Questionnaire-9 (PHQ-9) was used to assess depressive symptoms (Kroenke, Spitzer, & Williams, 2001), and comprises nine items based on the DSM-V criteria for depressive disorder. Examples of items from PHQ-9 are experiencing 'little interest or pleasure of doing things', 'feeling down, depressed, or hopeless' and, 'poor appetite or overeating'. The responses are rated on a 4-point Likert scale from 0 (not at all) to 3 (nearly every day) (Thombs et al., 2014). The score range for the PHQ-9 is 0–27, and scoring is done using the sum of ratings for severity of each item. In this study, the cut-off score for depression was 10 (Kroenke et al., 2001). The scoring criteria included three levels with a score of 10–14 indicating mild depression, 15–19 moderate to -severe depression, 20 or more as severe depression (Kroenke et al., 2001). The PHQ-9 has been shown to have excellent internal reliability, with a Cronbach's  $\alpha$  of 0.86–0.89 (Kroenke et al., 2001).

### *Social support: multidimensional scale of perceived social support*

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12 item self-report scale used to measure sources of perceived social support from family, friends and significant others (Zimet et al., 1988). The scale is rated on a 7-point Likert scale from 1 – (very strongly disagree) to 7 – (very strongly agree). Higher scores on all sections are related to greater social support. The overall internal consistency for this scale was found between .80 and .95 (Zimet et al., 1988). The MSPSS has three sub-scales with 4 items for each type, High internal consistency was found for all three subscales: significant other (.91), family (0.91) and friends (.89) (Canty-Mitchell & Zimet, 2000). All three sub-scales of the MSPSS: significant other, family, and friends were used in the analysis.

### *Quality of life: WHOQOL-BREF*

The WHOQOL-BREF is a 26 item self-report scale that is widely used to assess quality of life (World Health Organisation, 1998; Zhang et al., 2012). The response options range from 1 (very dissatisfied) to 5 (very satisfied) with higher scores indicative of elevated levels of quality of life. The scale consists of four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items). Two domains were used in this study: (i) the Psychological domain which comprised of six items about body image, positive & negative feelings, self-esteem, personal beliefs, thinking and concentration; and (ii) the Social Relationships domain which comprised of three items about personal relationships, social support and sexual

relationships. These domains were selected due to being highly relevant for the age group and the study variables (social support sub-scales, depression) as both domains encompass social activities and aspects that promote a successful transition for the age group. Internal consistency for the WHOQOL-BREF has been calculated between .81 and .95. Good internal consistency has also been reported for the psychological domain (.79) and the social relationships domain (0.75) (Rehabilitation Measures Database, 2014).

### **Statistical analysis**

The whole sample was divided into three groups by the PHQ-9 scores, no depression ( $\leq 9$ ), mild to moderate depression (10–14), and moderately severe to severe depression (15–27). The moderately severe and severe groups were combined in order to have sufficient numbers for group comparisons. Data analysis was conducted using SPSS software version 23. Frequency and descriptive data for socio-demographic variables were presented for all groups. Mean scores of the scales were compared, and one-way ANOVA and Chi-square performed as appropriate to examine group differences. Bivariate correlations to examine the relationship between all variables of interest were performed, and a hierarchical multiple regression analyses on the full sample was conducted to examine the predictors of depression and quality of life domains (psychological and social relationships). Three models were performed; the first one included potential predictors of depression, the second one included potential predictors of quality of life in the psychological domain, and in the third model we included potential predictors of quality of life in the social relationships domain. Step one of the analysis in all three models included the following demographic variables age, gender, year of study, moved away from home, and employment while undertaking studies. Step two included social support sub-scales (significant others, family, friends). In all models 1, 2, and 3 tolerance was greater than .10, and the variance inflation factor was less than 10 suggesting that multicollinearity was not an issue. Statistical significance was defined at the 0.05 level in all analyses.

### **Results**

The sample of 461 students was predominately female (82%,  $n = 378$ ) and the mean age was 20.62 years ( $SD\ 3.34$ ). The majority of the sample was undergraduate students (93.3%,  $n = 430$ ), and most had moved out of their home area (91.8%) to study at university. Of those students who moved away from home, 22.3% (103) were international students. Regarding students employment while undertaking their studies, 26.9% ( $N = 124$ ) of the students were employed (see [Table 1](#)).

### **Prevalence and correlates of depression**

For the full sample, 33% ( $N = 152$ ) met the inclusion criteria for depressive symptoms, with 95 (20.6%) students reporting mild to moderate depressive symptoms, and 57 (12.4%) reporting moderately severe to severe depressive symptoms. There was no significant difference between groups for gender ( $\chi^2(2) = 1.445, p = 0.486$ ), year of study ( $\chi^2(2) = 15.412, p = 0.118$ ), moved away from home ( $\chi^2(2) = 0.309, p = 0.857$ ), employment while undertaking studies ( $\chi^2(2) = 1.377, p = 0.502$ ), and age ( $t(150) = .244, p = 0.808$ ). Within the full sample, female students reported significant higher levels of social support from significant others ( $F(1,459) = 3.986, p = 0.046$ ), ( $M = 21.785, SD = 5.782$ ) compared to male students ( $M = 20.385, SD = 5.799$ ).

### **Social support**

An analysis of variance (ANOVA) on depression groups revealed a significant variation between the groups in the social support subscales of: significant others  $F(2,458) = 7.456, p = 0.001$ ., family  $F(2,458) = 18.234, p = 0.000$ ., and friends  $F(2,458) = 27.511, p = 0.000$ . A post hoc Tukey HSD test

**Table 1.** Characteristics of the sample.

Variable	No depression (n = 309)	Mild to Moderate depression (n = 95)	Moderately Severe to Severe (n = 57)
<b>Gender</b>			
Female	81.2% (251)	81.1% (77)	87.7% (50)
<b>Age (years)</b>			
18–19	40.5% (125)	38.9% (37)	33.3% (19)
20–21	44.7% (138)	41.1% (39)	45.6% (26)
22–23	8.4% (26)	7.4% (7)	12.3% (7)
24–51	6.5% (20)	12.6% (12)	8.8% (5)
<b>Year of study</b>			
First Year 1 (undergraduate)	37.5% (116)	34.7% (33)	31.6% (18)
Second Year 2 (undergraduate)	33.0% (102)	26.3% (25)	36.8% (21)
Third Year 3 (undergraduate)	21.0% (65)	29.5% (28)	22.8% (13)
Fourth Year 4	1.6% (5)	4.2% (4)	–
Postgrad	6.8% (21)	5.3. % (5)	7.0% (4)
<b>Moved away from home</b>			
Yes	91.3% (282)	92.6% (88)	93.0% (53)
No	8.7% (27)	7.4% (7)	7.0% (4)
<b>Employed</b>			
Yes	25.9% (80)	31.6% (30)	24.6% (14)
No	74.1% (229)	68.4% (65)	75.4% (43)

showed that the no depression group reported higher scores and differed significantly from the mild to moderate depression group, and the moderately severe to severe depression group in all social support subscales (significant others, family, friends) at  $p = 0.05$ . There was no significant difference between the mild to moderate depression group and the moderately severe to severe depression group for any of the social support subscales (see [Table 2](#)).

### Quality of life

An analysis of variance (ANOVA) on depression groups showed significant differences between the groups in quality of life, for the psychological  $F(2,458) = 163.626$ ,  $p = 0.000$ , and social relationships domains  $F(2,458) = 23.429$ ,  $p = 0.000$ . A post hoc Tukey HSD test showed that the no depression group reported higher scores and differed significantly from the mild to moderate depression group, and moderately severe to severe depression group in all quality of life domains (psychological, social relationships) at  $p = <0.001$ . Also, the mild to moderate depression group differed significantly from the moderately severe to severe depression group in both quality of life domains (psychological, social relationships) at  $p \leq 0.05$  (see [Table 2](#)).

### Predictors of depression

Results from correlation analysis (see [Table 3](#)) indicated a significant negative correlation between all sources of social support and depressive symptoms at  $p = 0.01$ ., and between both domains of quality of life and depressive symptoms. Finally, there was a strong positive correlation between the social support subscales and the quality of life domains. There was a strong correlation between depression and the psychological domain of quality of life.

A hierarchical regression analysis showed that in the first model (1) predicting depression was not significant at the first step  $F(5,455) = 1.509$ ,  $p = 0.186$ , but was significant at step 2  $F(8,452) = 15.507$ ,  $p = 0.000$  (see [Table 4](#)). Gender, year of study, moved away from home and employment while undertaking studies were not significant predictors of depressive symptoms, while age was the only significant predictor of depressive symptoms in the first step. In the second step of the model age was no longer a significant predictor, gender at this step was a significant predictor of depressive symptoms with being female associated with higher depression scores. Furthermore, social support from family and social support from friends were the only significant

**Table 2.** Mean scores comparison for depression groups by social support and quality of life.

Variable	No depression group (1)	Mild to Moderate depression group (2)	Moderately Severe to Severe group (3)	P-Value	Comparison Groups	Post Hoc Test
<b>Support</b>						
(Significant others)	<i>M</i> = 22.25 (SD 5.52)	<i>M</i> = 20.05 (SD 5.71)	<i>M</i> = 20.08 (SD 6.71)	.001*	1 VS 2 1 VS 3 2 VS 3	.003* .024* .999
Friends	<i>M</i> = 22.32 (SD 4.73)	<i>M</i> = 19.61 (SD 4.58)	<i>M</i> = 17.82 (SD 5.58)	.000*	1 VS 2 1 VS 3 2 VS 3	.000* .000* .070
Family	<i>M</i> = 22.41 (SD 5.18)	<i>M</i> = 19.36 (SD 6.33)	<i>M</i> = 18.68 (SD 6.19)	.000*	1 VS 2 1 VS 3 2 VS 3	.000* .000* .744
<b>QoL</b>						
(Psychological)	<i>M</i> = 21.37 (SD 3.60)	<i>M</i> = 16.45 (SD 3.50)	<i>M</i> = 13.19 (SD = 3.67)	.000*	1 VS 2 1 VS 3 2 VS 3	.000* .000* .000*
(Social relationships)	<i>M</i> = 11 (SD 2.49)	<i>M</i> = 9.81 (SD 2.40)	<i>M</i> = 8.73 (SD 2.86)	.000*	1 VS 2 1 VS 3 2 VS 3	.000* .000* .031*



**Table 3.** Correlations of depression, social support, and quality of life.

Variables	Depression	Support (Significant Others)	Support (Family)	Support (Friend)	QoL (Psychological)	QoL (Social relationships)
Depression	–	–.194**	–.343**	–.387**	–.734**	–.350**
Support (Significant others)	–.194**	–	.284**	.343**	.266**	.574**
Support (Family)	–.343**	.284**	–	.366**	.401**	.304**
Support (Friends)	–.387**	.343**	.366**	–	.460**	.485**
QoL (Psychological)	–.734**	.266**	.401**	.460**	–	.472**
QoL (Social relationships)	–.350**	.574**	.304**	.485**	.472**	–

\*\*Significant at the 0.01 level.

predictors of depressive symptoms from the social support subscales. The change in  $R^2$  at the second step showed that social support sources accounted for 19.9% of the variance in depressive symptoms (Table 4).

The second model (2) predicting psychological quality of life was not significant at the first step  $F(5,455) = 1.379, p = 0.231$ , but was significant in step 2  $F(8,452) = 24.462, p = 0.000$  (see Table 4). Step one of the analysis in model 2 indicated that gender, age, moved away from home, year of study, and employment while undertaking studies were not significant predictors of the psychological domain of quality of life. In the second step of the model, gender became a significant predictor of quality of life in the psychological domain. Furthermore, only social support from family, and friends were significant predictors of the psychological domain. The change in  $R^2$  at the second step showed that the social support sources accounted for 28.7% of the variance in the psychological domain of quality of life (Table 4).

The third model (3) predicting the social relationships domain of quality of life was not significant at the first step  $F(5,455) = 1.235, p = 0.251$ , however it was significant in step 2  $F(8,452) = 42.651, p = 0.000$  (Table 4). Step one of the analysis in model 3 revealed that gender, moved away from home, year of study and employment while undertaking studies were not significant predictors of the social relationships domain of quality of life, the only significant predictor at this step was age. In the second step age was no longer a significant predictor. Social support from significant others, and friends were the only significant predictors of the social relationships domain. The change in  $R^2$  at the second step showed that social support sources accounted for 41.6% of the variance in the social relationships domain (Table 4). The  $f^2$  was calculated for all models to interpret the effect size of the predictors added into the models. Model 1 predicting depression showed that the effect size of the sources of social support added in step 2 was medium. Model 2 and 3 predicting psychological and social quality of life showed that the effect size of the sources of social support added in step 2 was large.

## Discussion

### Prevalence of depression

This research study aimed to determine the impact of social support on depressive symptoms and quality of life among university students. The prevalence of depression was 33.0%, and is comparable to the rates found in previous studies (Ibrahim et al., 2013; Othieno et al., 2014). However, our findings are slightly higher than the 19–26% rates of depression reported in some studies (Goebert et al., 2009; Roberts, Glod, Kim, & Hounchell, 2010; Steptoe, Tsuda, Tanaka, & Wardle, 2007). This might be due to different self-report measures used in previous studies and the variation in the sample size collected. Moderate to severe depression was reported by 8%, and severe depressive symptoms by 3.4% of university students in our study. These results are slightly lower than the rates of 4–6% reported in previous studies (Asante & Andoh-Arthur, 2015; Chen et al., 2013;

**Table 4.** Predictors of depressive symptoms and quality of life(Hierarchical Multiple Regression).

Variable	Depressive Symptoms & Quality of Life Domains							P-Value
	Unadjusted $R^2$	Adjusted $R^2$	$\Delta R^2$	B	SE B	$\beta$ Standardised	$f^2$	
<b>Model 1 (Step 1)</b>	0.016	0.006	.016				0.000	.186
Gender				.825	.686	.056		.230
Age				.207	.099	.122		.038*
Year of study				-.327	.279	-.065		.242
Moved away from home				-1.837	1.038	-.089		.077
Employed				-.512	.616	-.040		.406
<b>Step 2</b>	0.215	0.201	.199				0.244	
Gender				1.403	.618	.095		.024*
Age				.154	.090	.091		.087
Year of study				-.329	.250	-.065		.189
Moved away from home				-1.761	.938	-.086		.061
Employed				-.311	.552	-.024		.573
<b>Support</b>								
Significant others				-.020	.045	-.020		.658
Family				-.224	.045	-.228		.000*
Friends				-.337	.052	-.304		.000*
<b>Model 2 (step 1)</b>	0.015	0.004	.015				0.000	
Gender				-.866	.570	-.071		.130
Age				-.037	.082	-.026		.655
Year of study				-.288	.231	-.069		.214
Moved away from home				1.366	.862	.080		.114
Employment				-.151	.511	-.014		.768
<b>Step 2</b>	0.302	0.290	.287				0.402	
Gender				-1.469	.484	-.120		.003*
Age				.024	.070	.017		.727
Year of study				-.293	.196	-.070		.135
Moved away from home				1.170	.734	.069		.112
Employment				-.359	.432	-.034		.406
<b>Support</b>								
Significant others				.062	.035	.077		.075
Family				.214	.035	.264		.000*
Friends				.320	.041	.347		.000*
<b>Model 3 (step1)</b>	0.014	0.004	.014				0.000	
Gender				.351	.322	.051		.276
Age				-.096	.047	-.121		.040*
Year of study				.156	.131	.066		.232
Moved away from home				.748	.486	.078		.125
Employment				.045	.288	.008		.876
<b>Step 2</b>	0.430	0.420	.416				0.717	
Gender				-.090	.247	-.013		.714
Age				-.035	.036	-.044		.327
Year of study				.144	.100	.061		.149
Moved away from home				.179	.374	.019		.633
Employment				-.096	.220	-.016		.662
<b>Support</b>								
Significant others				.204	.018	.448		.000*
Family				.029	.018	.063		.108
Friends				.162	.021	.311		.000*

\*Significant at the 0.05 level.

Othieno et al., 2014). The overall prevalence of depression in our study (33%) is consistent with the average rates reported in a systematic review that revealed the prevalence of depression among university students ranges between 10–85% (Ibrahim et al., 2013). The high variation in prevalence rates in the literature among university students is likely due to culture differences, types of instruments used, and the sample recruited (Ibrahim et al., 2013). Unlike previous studies no significant difference was found in rates of depression between male and female students (Adewuya, Ola, Aloba, Mapayi, & Oginni, 2006). It is possible that the high percentage of female students in our sample may have confounded the findings by not capturing a comprehensive overview of the impact of social support sources on depression and quality of life domains for male

students. However, data from the participating institution revealed this was a representative sample in that the majority of students across the university were female.

### ***Predictors of depression***

Social support has a positive role on mental health and quality of life by helping individuals to feel appreciated and connected with social networks. This feeling of being supported is related to lower levels of mental health problems and therefore acts as a protective factor against depression (Camara & Padilla, 2017; Dafaalla et al., 2016; Kugbey, 2015). Our results revealed that social support from family and friends are predictors of depressive symptoms and significantly negatively correlated with depressive symptoms as per the previous findings in the literature (Bukhari & Afzal, 2017; Safree & Dzulkifli, 2010). Several research studies have shown that social support from significant others, family and friends predicts well-being and depression (Glozah, 2013; Kugbey, 2015; Ramezankhani et al., 2013). Consistent with our findings a study showed that social support from friends is more important for university students and was a strong predictor of depressive symptoms compared to social support from family and significant others (Kugbey, 2015). This might be due in part to the close relationship, proximity and sharing of experiences with friends in this age group while at university. Also, the university environment encourages students to meet new people, create social networks and have special relationships. At this age students spend more time with peers compared to families as most students move away from their home area to study at university (Michael, Bowers, ColleenTerzian, Hunsberger, & Bruce, 2000). It is a transitional stage for university students from adolescence to early adulthood to explore their identity and shape their social characteristics. All of these factors are attributable to the crucial role of the support of friends during this transitional phase. In addition our results showed that social support from family was also predictive of depressive symptoms, albeit not as strong a predictor as support from friends. These findings are consistent with previous studies and highlight the important role of family in providing support to protect the mental health of students (Hamdan-Mansour & Dawani, 2008). One condition that might explain the importance of the family as a source of social support is the parents' maturity and rich experiences with life stressors, as the maturity of the sources of support is considered as an essential condition when individuals seek support (Camara, Bacigalupe, & Padilla, 2017). The strongest prediction of depressive symptoms from friends compared to family is likely to be found in this age group and might be explained by the proximity of friends and the need of support while at university especially for those moved away from home.

Social support from significant others has been shown to have a positive influence on university students' mental health (Kugbey, 2015). Contradictory findings in the literature revealed that social support from significant others predicts depressive symptoms among university students (Kugbey, 2015), while some studies did not find social support from significant others predicted depressive symptoms (Hamdan-Mansour & Dawani, 2008; Safree & Dzulkifli, 2010). In this study, we found that social support from significant others did not predict depressive symptoms. The inconsistency of the findings in the literature could be attributable to different measures used, mainly the constructions of other scales which measure wider domains or total scores or focused only on specific sources such as social support from family and friends. Also, the informal sources of social support from both friends and family might be regarded as more trustworthy and reliable compared to other sources. This reflects the importance and strength of our study by examining specific sources within social support and this has not been used consistently in the literature, hence some studies may have failed to capture this.

Our findings also indicated that female students reported significantly higher levels of social support from significant others compared to male students. Similarly other studies have reported that overall female students had more social support than male students (Kugbey, 2015; Tahmasbipoura & Taheri, 2012). The higher level of social support among female students may be due in part to the higher levels of help seeking behaviour by females as reported in the literature

compared to males (Hamdan-Mansour & Dawani, 2008; Tahmasbipoura & Taheri, 2012). It is possible that females are more vulnerable to stressors, and relationships with others but that they are sociable and tend to make better use of social support sources and emotional support strategies to manage such stressors and relationships problems (Camara & Padilla, 2017; Rose & Rudolph, 2006).

Quality of life is a multidimensional concept that assesses positive and negative aspects of psychological, social, environmental and physical health (Zhang et al., 2012). Research has shown that quality of life is influenced by social support and has a positive, profound impact on students attending university including social, academic, and psychological health which result in a successful transition to university (Zhang et al., 2012). We found that social support from friends or family were strong predictors of the psychological domain of quality of life, and social support was also significantly positively correlated with quality of life. The findings are consistent with a previous study which showed the importance of social support on quality of life in university students (Dafaalla et al., 2016). Quality of life is influenced by different social factors including relationships, friends, teachers, moved away from home, expectations of parents, and peer pressure. Also we found that social support from friends or, significant others were predictors of the social relationships domain of quality of life. Social support from family as a stronger predictor of the psychological domain of quality of life when compared to the social relationships domain may be explained partly from the literature that suggests individuals seek emotional support from family in critical crises and that this will increase the quality of psychological wellbeing. On the other hand, social support from significant others as a predictor of the social relationships instead of the psychological domain of quality of life maybe informed by the need for forming social connections and being part of the university and the wider community, as such relations encourage the quality of social relationships.

The social relationships domain of quality of life was positively correlated with the three sources of social support (family, friends, significant others), and is likely to be influenced by both scales assessing social interactions and the quality of such relationships. The greater pressure on university students to do well in academic tasks and to identify who they will become in the future is a possible explanation for some students reporting increased psychological problems and lowered quality of life. Our results showed a significant positive correlation between quality of life in the psychological and social relationships domains. This is likely to be due to strong and stable social relationships increasing the quality of the psychological wellbeing. Our study provides evidence with regards to the positive and negative impact of social support sources on depressive symptoms and quality of life domains in university students.

Generally, this study showed that sources of social support showed a significant impact on depression and quality of life for university students and represent a valuable resource for universities in protecting and supporting the mental health of students. Social support from family and friends has a significant role in decreasing the risk of depressive symptoms and increasing quality of life in the psychological domain. On the other hand, social support from significant others and friends has a significant role in improving the quality of life in social relationships domain in university students. These findings provide knowledge for the development of effective interventions and prevention strategies for both students and universities. Increasing the awareness of specific sources of social support will be protective of the social and emotional well-being of students.

## Limitations

A large sample of 461 university students completed an online survey of self-report measures. While the sample was predominantly female, this reflects the overall student population at the university, and the UK university student population whereby 53.5% of the overall percentage of students attending university are female (Department of Education, 2016). This study did not capture the patterns, changes and development of social support from different sources over time as could have been achieved by a longitudinal approach. Finally, half of the sample was from the Department of

Psychology and this might affect the representation of all schools and departments. This was partly due to recruitment being driven by psychology students promoting the study and psychology was the only department to offer course credits. Furthermore, a large proportion of psychology students were female and this may partly affect the generalisation of the study findings to other departments, or detect any gender differences within the sample. Future research could target male students and other departments equally during the recruitment to have a better representation.

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